Docket No: MS1-1880US 1 of 15

Inventors: Tamma, et al.

Title: Relational Database Schema Version Management

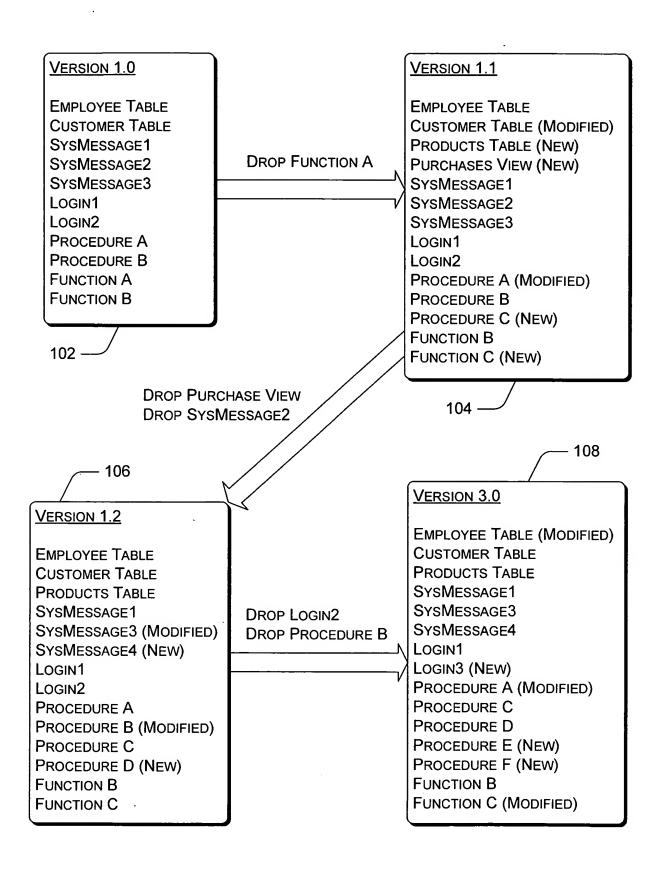


Figure 1

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Inventors: Tamma, et al.

```
<?xml version="1.0" encoding="utf-8" ?>
                                                                 216
<xs:schema xmlns="xsdDSVM"</pre>
           targetNamespace="xsdDSVM"
           xmlns:xs="http://www.w3.org/2001/XMLSchema">
                                                                          202
    <xs:complexType name="SchemaDataType">
                                                     214
        <xs:attribute name="name"</pre>
                       type="xs:string"
                       use="required">
        </xs:attribute>
    </xs:complexType>
    <xs:complexType name="ReleaseType">
        <xs:sequence>
            <xs:element name="ddl"</pre>
                         type="SchemaDataType"
                         minOccurs="0"
                                                        212
                         maxOccurs="unbounded">
            </xs:element>
            <xs:element name="sproc"</pre>
                         type="SchemaDataType"
                         minOccurs="0"
                                                                   208
                         maxOccurs="unbounded">
            </xs:element>
            <xs:element name="drop"</pre>
                         type="SchemaDataType"
                         minOccurs="0"
                         maxOccurs="unbounded">
            </xs:element>
        </xs:sequence>
                                                        210
        <xs:attribute name="version"</pre>
                       type="xs:unsignedLong"
                       use="required">
        </xs:attribute>
    </xs:complexType>
    <xs:complexType name="DSVMType">
        <xs:sequence>
                                                         206
            <xs:element name="Release"</pre>
                         type="ReleaseType"
                         minOccurs="1"
                         maxOccurs="unbounded">
            </xs:element>
        </xs:sequence>
                                                                     204
    </xs:complexType>
    <xs:element name="DSVM" type="DSVMType"></xs:element>
</xs:schema>
```

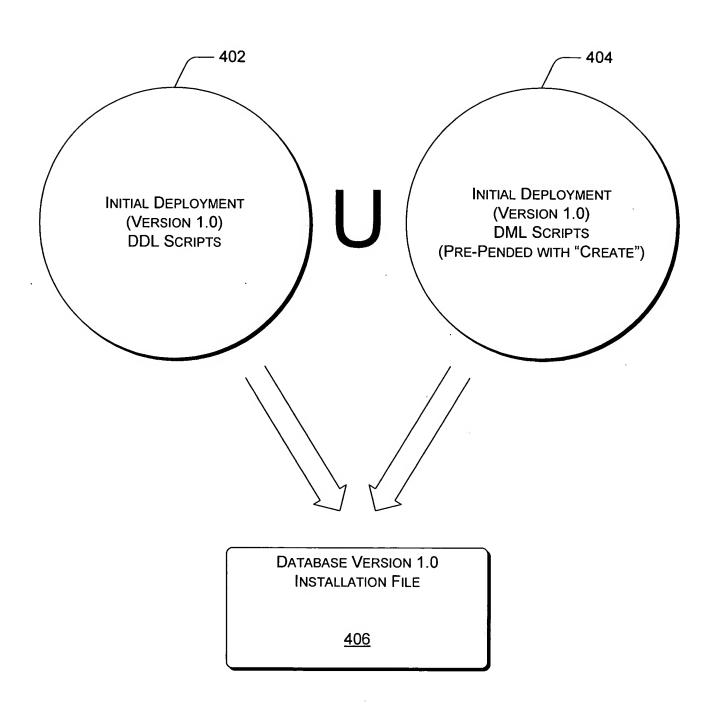
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Inventors: Tamma, et al.

```
<?xml version="1.0" encoding="utf-8" ?>
<ls:DSVM xmlns:ls="xsdDSVM" xmlns:xsi='http://www.w3.org/2001/</pre>
XMLSchema-instance' xsi:schemaLocation='xsdDSVM dsvm.xsd'>
<Release Version="1">
   <ddl name="Tables1.0.sql"/>
   <ddl name="SysMessages1.0.sql"/>
                                                 304
   <ddl name="Login1.0.sql"/>
   <sproc name="ProcA.sql"/>
   <sproc name="FuncA.sql"/>
   <sproc name="ProcB.sql"/>
   <sproc name="FuncB.sql"/>
</Release>
<Release Version="2">
   <ddl name="UpgradeTables1.1.sql"/>
                                                 306
   <sproc name="ProcA.sql"/>
   <sproc name="ProcC.sql"/>
   <sproc name="FuncC.sql"/>
   <drop name="FuncA.sql"/>
</Release>
<Release Version="3">
                                                 308
   <ddl name="UpgradeSysMessages1.2.sgl"/>
  <sproc name="ProcB.sql"/>
   <sproc name="ProcD.sql"/>
</Release>
<Release Version="4">
  <ddl name="UpgradeTables3.0.sql"/>
  <ddl name="UpgradeLogins3.0.sql"/> ,
                                                 310
  <sproc name="ProcA.sql"/>
  <sproc name="FuncC.sql"/>
  <sproc name="ProcE.sql"/>
  <sproc name="ProcF.sql"/>
  <drop name="ProcB.sql"/>
</Release>
</ls:DSVM>
                                                          302
```

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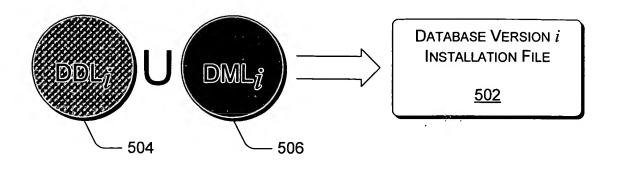


Figure 5a

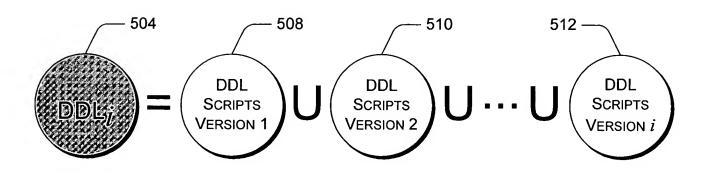


Figure 5b

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Inventors: Tamma, et al.

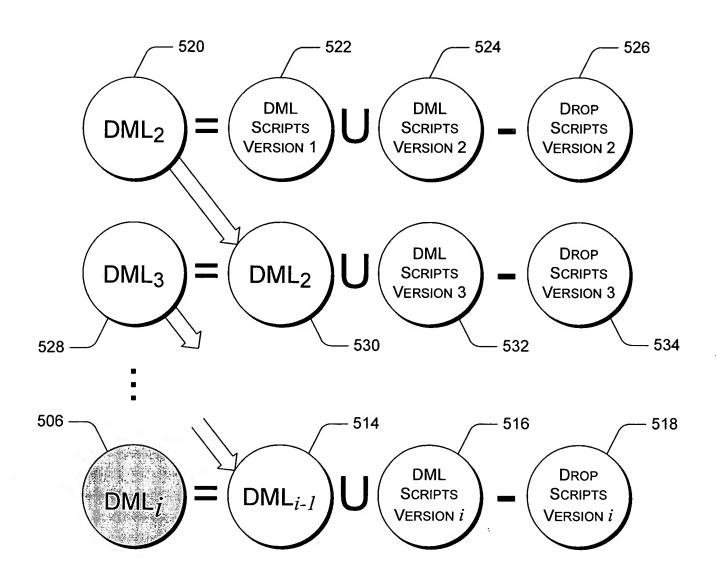
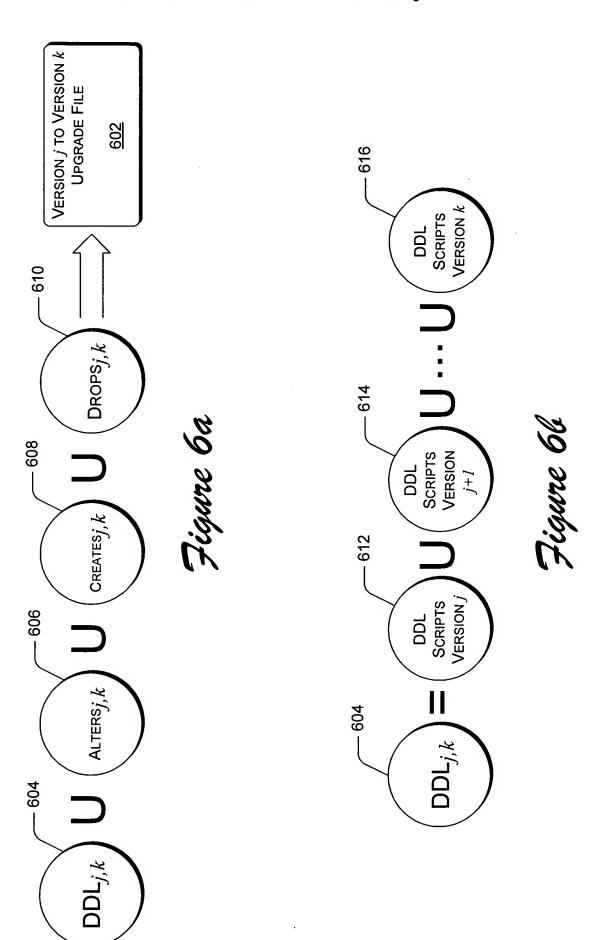


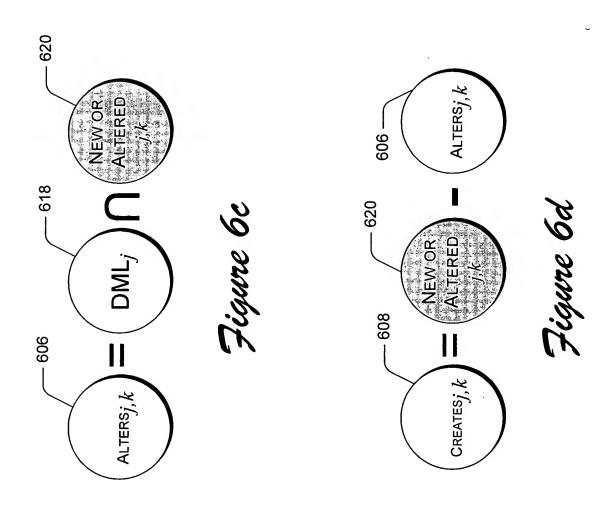
Figure 5c

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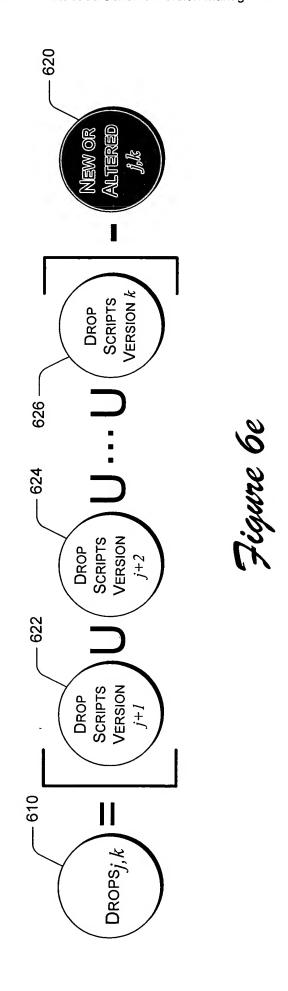
Inventors: Tamma, et al.



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Inventors: Tamma, et al.

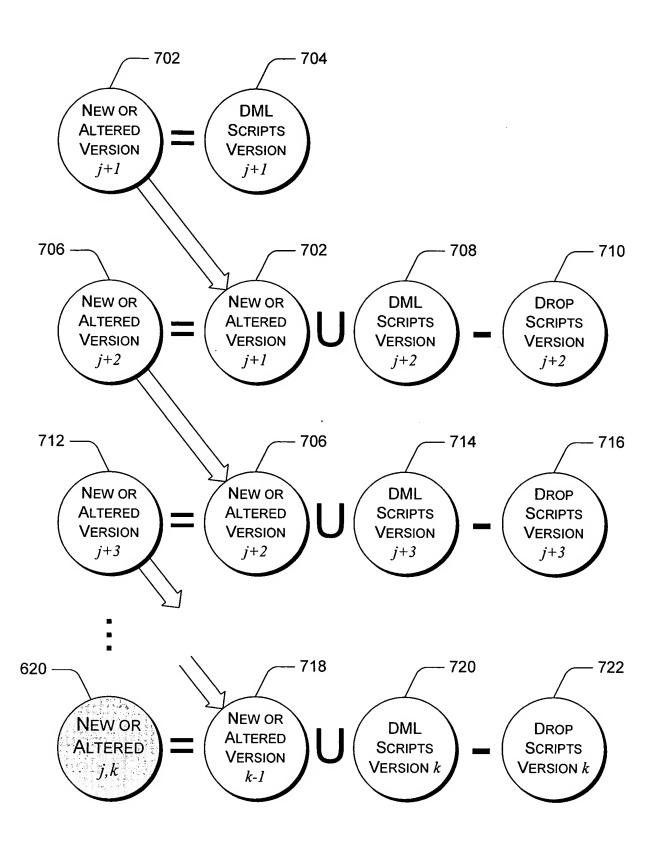


Figure 7

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Inventors: Tamma, et al.

Title: Relational Database Schema Version Management

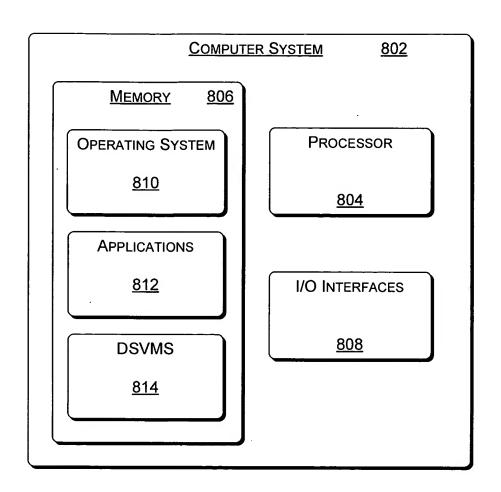


Figure 8

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Inventors: Tamma, et al.

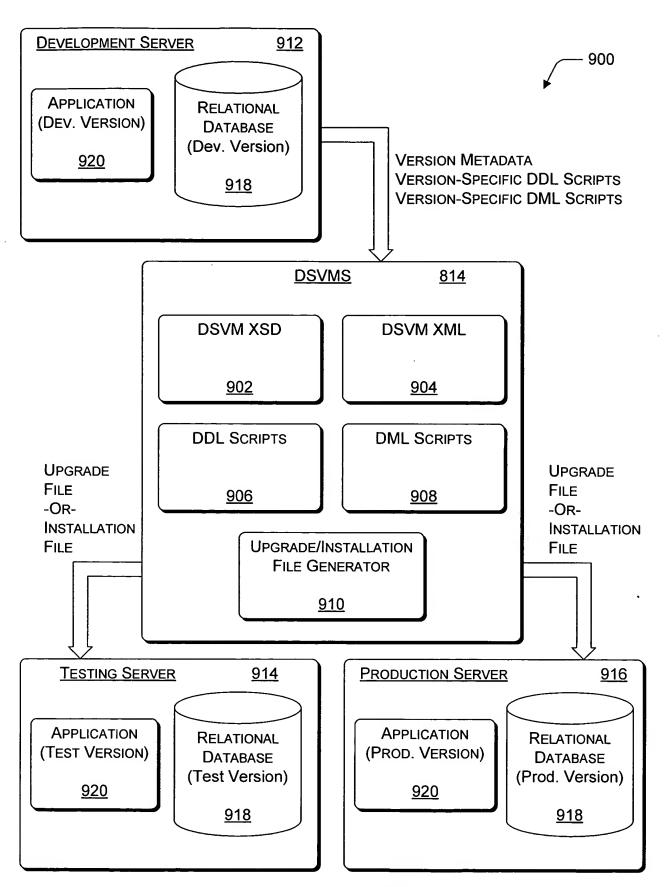


Figure 9

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Inventors: Tamma, et al.

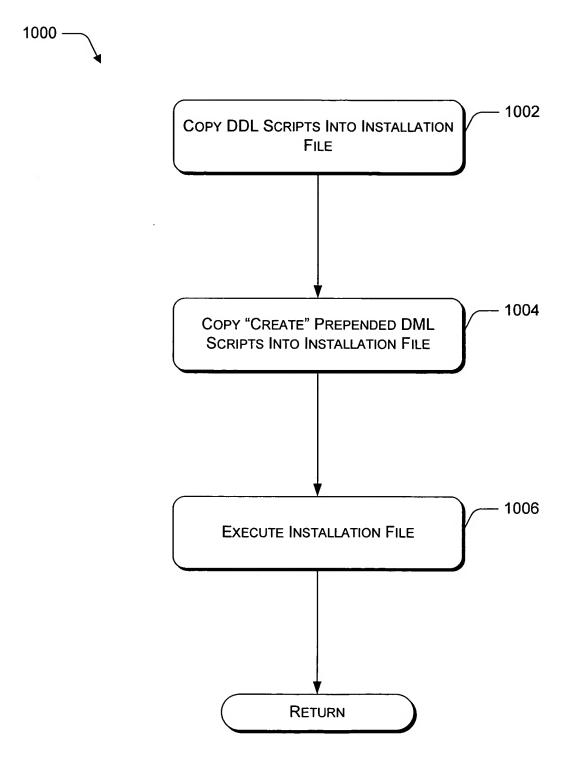


Figure 10

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Inventors: Tamma, et al.

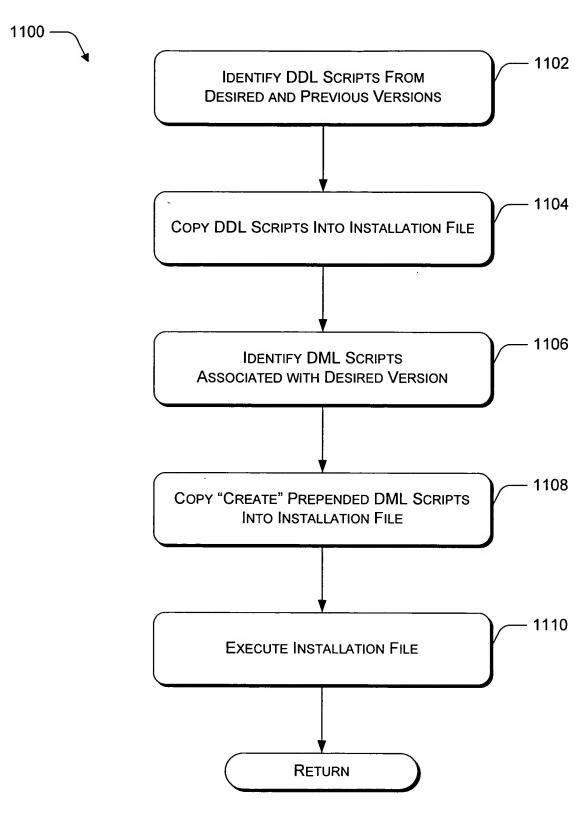


Figure 11

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Inventors: Tamma, et al.

